

WHAT IS CLAIMED IS:

1. A process comprising reducing a component selected from the group consisting of tungsten powders and molybdenum oxide powders, in the presence of alkali metal compounds, and preparing tungsten powder, molybdenum powder, mixtures thereof, or a carbide;  
5 wherein at least two alkali metal compounds are used in a ratio so that mixed alkali tungstate or molybdate formed in an intermediate step  $((\text{Li}, \text{Na}, \text{K})_2 \text{WO}_z, (\text{Li}, \text{Na}, \text{K})_2 \text{MoO}_z)$  has a melting point of less than about  $550^\circ\text{C}$ , wherein the value of  $z$  is from 3 to 4.
- 10 2. The process of Claim 1, wherein the component selected from the group consisting of tungsten powders and molybdenum oxide powders is subjected to a carburizing treatment.
3. The process according to Claim 1, wherein the alkali compounds are used in a total amount that ranges from about 0.2 to about  
15 1.5 mole %, based on the tungsten and/or molybdenum oxide.
4. The process according to Claim 1, wherein the alkali compounds have a molar ratio of Na to Li of from about 0.9 to about 1.26 and wherein, in the further presence of a potassium compound, the potassium replaces Na and/or Li up to about 40 mole %.
- 20 5. The process according to Claim 1, wherein the alkali compounds are used in a mixed salt.
6. The process according to Claim 1, wherein the alkali compounds are selected from the group consisting of oxides, hydroxides, carbonates, tungstates and molybdates.
- 25 7. The process according to Claim 1, wherein the tungsten oxide powder is  $\text{WO}_3$  and the molybdenum oxide powder is  $\text{MoO}_3$ .
8. The process according to Claim 1, wherein the tungsten oxide powder is  $\text{WO}_2$  and the molybdenum oxide powder is  $\text{MoO}_2$ .
9. The process according to Claim 1, wherein the reducing  
30 treatment is carried out in an atmosphere containing hydrogen and/or carbon monoxide and/or hydrocarbon.

- 5 >50  $\mu\text{m}$  FSSS.

14. The tungsten carbide of Claim 13, wherein the tungsten carbide is a sintered hardmetal or an infiltrated tool.